

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Advance MP and ES
Program: B.Tech Electronics(IOT)
Course Code: ELEG 365

Semester: 7th
Time 03 hrs.
Max. Marks: 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	The contents of the registers are given below. Form the effective addresses for register addressing and direct addressing modes: Offset=5000h [AX]-1000h,[BX]-2000h,[DS]-1000h	5	CO3
2	Compute the physical address for the specified operand in each of the following instructions: MOV [DI], AX MOV DI, [SI] MOV DI+XYZ, AH	5	CO3
3	Write briefly about Programmable communication interface 8251	5	CO1
4.	Explain the assembler directives ASSUME and ENDP	5	CO1

SECTION B

5.	With the help of timing diagram, explain the read cycle of 8086 in minimum mode	10	CO2
6.	Find the largest number from an unordered array of a sixteen 8 bit numbers stored sequentially in the memory locations starting at offset 0500h in the segment 2000h.	10	CO2
7.	Explain the internal architecture of 80386 with the help of a block diagram	10	CO1
8.	Write an ALP in 8051 to count the number of 1s and 0s in the given 8 bit number	10	CO3

SECTION-C

9.a)	Design a memory system around 8086 that has total 16kx8 EPROM and 32kx8 RAM. The EPROM chips are available in modules of 8kx8 and RAM chips are available in modules of 8kx8. The memory map should be specified below:	10	CO4/C O5
------	---	----	-------------

	EPROM1-F0000h-F1FFFh EPROM2-decide suitably RAM1-contains interrupt vector table RAM2-30000h-31FFFh RAM3-40000h-41FFFh RAM4- 50000h-51FFFh		
b)	Interface an 8255 with 8086 at 80 h as an I/O address of port A. interface five seven segment displays with the 8255. Write a sequence of instructions to display 1,2,3,4 and 5 over the five displays continuously as per their positions starting with 1 at the least significant position.	10	CO5
10	Design a programmable timer using 8254 and 8086. Interface 8254 at an address 0040h for counter 0 and write the following Assembly level programs. The 8086 and 8254 run at 6 MHz and 1.5 MHz respectively <ul style="list-style-type: none"> a) To generate square wave of period 1 ms b) To interrupt the processor after 10 ms c) To derive a monoshot pulse with a quasi stable state duration 5 ms. 	20	CO5